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IN THE CLAIMS:

Please cancel claims 1-24, 46-50, and 59-69 without prejudice, resulting in the following listing of the claims. This listing replaces and supersedes all prior claim listings.

1-24 (Canceled)

25. (Original) A signal processing apparatus comprising: means for acquiring second signals of a second dimension by projecting first signals as real-world signals of a first dimension on a sensor and by detecting the mapped signals by said sensor, said first dimension being lower than said second dimension; and signal processing means for extracting the significant information, buried by said projection from said second signals, by performing signal processing which is based on said second signals.

26. (Original) The signal processing apparatus according to claim 25 wherein said significant information is the information for adjusting the distortion produced by projection.

27. (Original) The signal processing apparatus according to claim 26 wherein said sensor is made up of a plurality of detection elements having time integrating effects; said acquisition means acquiring a plurality of detection signals for said respective detection elements, as detected by said sensor, as said second signals; said distortion being the distortion caused by the time integrating effect.

28. (Original) The signal processing apparatus according to claim 27 wherein said acquisition means acquire said detection signals of a plurality of time units, as detected by plural

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detection elements of said sensor every predetermined time unit; said signal processing means extracting said significant information for said second signal of a desired time based on plural detection signals of said plural time units.

29. (Original) The signal processing apparatus according to claim 25 wherein said second signals are picture signals.

30. (Original) The signal processing apparatus according to claim 25 wherein said signal processing means includes area specifying means for specifying a significant area and the other areas in said second signal, said significant area containing the significant information buried by said projection, outputting the area information specifying the specified area as said significant information.

31. (Original) The signal processing apparatus according to claim 30 wherein said area information specifies the foreground area, as said other area, made up only of foreground object components constituting a foreground object, the background area made up only of background object components constituting a background object, as said other area, and the mixed area mixed from said foreground object components and the background object components.

32. (Original) The signal processing apparatus according to claim 31 wherein said area information contains the information for discriminating said mixed area into a covered background area and an uncovered background area.

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33. (Original) The signal processing apparatus according to claim 30 wherein said signal processing means further includes significant information extracting means for extracting said significant information from an area containing said significant information specified by said area specifying means.

34. (Original) The signal processing apparatus according to claim 33 wherein said significant information specifies a mixing ratio of said foreground components and the background components in said mixed area of said second signal made up of a foreground area comprised only of foreground object components constituting the foreground objects, a background area comprised only of background object components constituting the background objects and a mixed area mixed from said foreground object components and said background object components.

35. (Original) The signal processing apparatus according to claim 33 wherein said signal processing means further includes distortion adjustment means for adjusting the amount of distortion produced in said second signal by said projection based on said significant information.

36. (Original) The signal processing apparatus according to claim 35 wherein said distortion adjustment means reduces the amount of said distortion.

37. (Original) The signal processing apparatus according to claim 35 wherein said distortion adjustment means eliminates said distortion.

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38. (Original) The signal processing apparatus according to claim 35 wherein said distortion is movement blurring produced in said foreground object.

39. (Original) The signal processing apparatus according to claim 38 wherein said signal processing means further includes object movement detection means for detecting the movement quantity of said foreground object; and wherein said distortion adjustment means adjusts the quantity of movement blurring which is said distortion based on said movement quantity of said foreground object.

40. (Original) The signal processing apparatus according to claim 25 wherein said signal processing means extracts, as said significant information, a mixing ratio of foreground object components and the background object components in said mixed area of said second signal made up of a foreground area comprised only of foreground object components constituting the foreground object, a background area comprised only of background object components constituting the background object and a mixed area mixed from said foreground object components and said background object components.

41. (Original) The signal processing apparatus according to claim 40 wherein said signal processing means further includes distortion adjustment means for adjusting the amount of distortion produced in said second signal by said projection based on said significant information.

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42. (Original) The signal processing apparatus according to claim 41 wherein said distortion adjustment means reduces the amount of said distortion.

43. (Original) The signal processing apparatus according to claim 41 wherein said distortion adjustment means eliminates said distortion.

44. (Original) The signal processing apparatus according to claim 41 wherein said distortion is movement blurring produced in said foreground object.

45. (Original) The signal processing apparatus according to claim 44 wherein said signal processing means further includes object movement detection means for detecting the movement quantity of said foreground object; and wherein said distortion adjustment means adjusts the quantity of movement blurring which is said distortion based on said movement quantity of said foreground object.

46-50 (Canceled)

51. (Original) A signal processing method comprising: a signal acquisition step of acquiring a second signal by projecting a first signal as a real world signal of a first dimension on a sensor and detecting the so-mapped first signal by said sensor, said second signal being of a second dimension lower than said first dimension; and a signal processing step of performing signal processing based on said second signal to extract the significant information buried by projection from said second signal.

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52. (Original) A recording medium having recorded thereon a computer-readable program, said program comprising: a signal acquisition step of acquiring a second signal by projecting a first signal as a real world signal of a first dimension on a sensor and detecting the so-mapped first signal by said sensor, said second signal being of a second dimension lower than said first dimension; and a signal processing step of performing signal processing based on said second signal to extract the significant information buried by projection from said second signal.

53. (Original) A signal processing apparatus comprising: signal acquisition means for acquiring a second signal by detecting a first signal as a real world signal of a first dimension by a sensor, said second signal being of a second dimension lower than said first dimension and containing distortion with respect to said first signal; and signal processing means for performing signal processing on said second signal for generating a third signal alleviated in distortion as compared to said second signal.

54. (Original) The signal processing apparatus according to claim 53 wherein said sensor is made up of a plurality of detection elements having time integrating effects as said distortion; said acquisition means acquiring a plurality of detection signals detected by said sensor for said respective detection elements as said second signals; said signal processing means performing signal processing on said second signal to generate said third signal, made up of a plurality of sample data corresponding to said detection signals, alleviated in time integrating effects.

55. (Original) The signal processing apparatus according to claim 54 wherein if a first object in the real world and a second object performing relative movement with respect to the

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first object are detected by said sensor, said signal processing means alleviates, by said signal processing, the distortion caused by the mixing of said first object and the second object due to time integrating effects of said sensor in the vicinity of a boundary between said first and second objects.

56. (Original) The signal processing apparatus according to claim 55 wherein said acquisition means acquire said detection signals of a plurality of time units, as detected by plural detection elements of said sensor every predetermined time unit; said signal processing means alleviating, by said signal processing, the distortion caused in the vicinity of the boundary between said first and second objects represented by said second signal corresponding to a desired time unit based on said detection signal of plural time units.

57. (Original) The signal processing apparatus according to claim 54 wherein if a first object in the real world and a second object performing relative movement with respect to the first object are detected by said sensor, said signal processing means separates one of said first and second objects, from said first and second objects mixed in said second signal, to output the separated one of said first and second objects as said third signal.

58. (Original) The signal processing apparatus according to claim 53 wherein said sensor converts electromagnetic waves, inclusive of light, as said first signal, into picture signals, as said second signal, by photoelectric conversion.

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59-69 (Canceled)

70. (Original) A signal processing apparatus for processing a predetermined number of detection signals acquired by a sensor made up of a predetermined number of detection elements having time integrating effects, said signal processing apparatus comprising: area specifying means for specifying a foreground area made up only of foreground object components constituting an foreground object, a background area made up only of background object components constituting a background object, and a mixed area mixed from said foreground object components and the background object components; mixing ratio detection means for detecting a mixing ratio of said foreground object components and said background object components at least in said mixed area; and separating means for separating said foreground object and said background object from each other based on the specified results by said area specifying means and said mixing ratio.

71. (Original) The signal processing apparatus according to claim 70 further comprising: movement blurring quantity adjustment means for adjusting the movement blurring quantity of said foreground object.

72. (Original) A signal processing method for processing a predetermined number of detection signals acquired by a sensor made up of a predetermined number of detection elements having time integrating effects, said signal processing method comprising: an area specifying step of specifying a foreground area, made up only of foreground object components constituting an foreground object, a background area made up only of background object components constituting a background object, and a mixed area mixed from said foreground object

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components and the background object components; a mixed area detection step of detecting a mixing ratio of said foreground object components and said background object components at least in said mixed area; and a separating step of separating said foreground object and said background object from each other based on the specified results by said area specifying means and said mixing ratio.

73. (Original) A recording medium having a computer-readable program, recorded thereon, said computer-readable program comprising: an area specifying step of specifying a foreground area, made up only of foreground object components constituting an foreground object, a background area made up only of background object components constituting a background object, and a mixed area mixed from said foreground object components and the background object components; a mixed area detection step of detecting a mixing ratio of said foreground object components and said background object components at least in said mixed area; and a separating step of separating said foreground object and said background object from each other based on the specified results by said area specifying means and said mixing ratio.

74. (Original) A signal processing apparatus for processing a predetermined number of detection signals acquired by a sensor made up of a predetermined number of detection elements having time integrating effects, said signal processing apparatus comprising: area specifying means for specifying a foreground area, made up only of foreground object components constituting an foreground object, a background area made up only of background object components constituting a background object, and a mixed area mixed from said foreground object components and the background object components; and mixing ratio detecting means for

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detecting a mixing ratio between said foreground object components and said background object components at least in said mixed area based on the results specified by said area specifying means.

75. (Original) The signal processing apparatus according to claim 74 further comprising: separating means for separating said foreground object and said background object from each other based on said mixing ratio.

76. (Original) The signal processing apparatus according to claim 74 further comprising: movement blurring quantity adjustment means for adjusting the quantity of movement blurring contained in said foreground object.

77. (Original) The signal processing apparatus according to claim 76 further comprising: movement detection means for detecting the movement of at least one of said foreground object and said background object; said movement blurring adjustment means adjusting the movement blurring quantity based on the detected movement.

78. (Original) A signal processing method for processing a predetermined number of detection signals acquired by a sensor made up of a predetermined number of detection elements having time integrating effects; said signal processing method comprising: an area specifying step of specifying a foreground area, made up only of foreground object components constituting an foreground object, a background area made up only of background object components constituting a background object, and a mixed area mixed from said foreground object

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components and the background object components; and a mixing ratio detecting step of detecting a mixing ratio between said foreground object components and said background object components at least in said mixed area based on the results specified by said area specifying means.

79. (Original) A recording medium having a computer-readable program recorded thereon, said signal processing method for processing a predetermined number of detection signals acquired by a sensor made up of a predetermined number of detection elements having time integrating effects, said computer-readable program comprising: an area specifying step of specifying a foreground area, made up only of foreground object components constituting an foreground object, a background area made up only of background object components constituting a background object, and a mixed area mixed from said foreground object components and the background object components; and a mixing ratio detecting step of detecting a mixing ratio between said foreground object components and said background object components at least in said mixed area based on the results specified by said area specifying means.

80. (Original) A signal processing apparatus for processing a predetermined number of detection signals acquired by a sensor made up of a predetermined number of detection elements having time integrating effects, said signal processing apparatus comprising: mixing ratio detecting means for detecting a mixing ratio of foreground object components and background object components in a mixed area in which said foreground object components constituting a foreground object and said background object components constituting a background object are

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mixed; and separating means for separating said foreground object and said background object from each other based on said mixing ratio.

81. (Original) The signal processing apparatus according to claim 80 further comprising: movement blurring quantity adjustment means for adjusting the movement blurring quantity of said foreground object.

82. (Original) The signal processing apparatus according to claim 81 further comprising: movement detection means for detecting the movement of at least one of said foreground object and said background object; said movement blurring adjustment means adjusting the movement blurring quantity based on the detected movement.

83. (Original) A signal processing method for processing a predetermined number of detection signals acquired by a sensor made up of a predetermined number of detection elements having time integrating effects, said signal processing method comprising: a mixing ratio detecting step of detecting a mixing ratio of foreground object components and background object components in a mixed area in which said foreground object components constituting a foreground object and said background object components constituting a background object are mixed; and a separating step of separating said foreground object and said background object from each other based on said mixing ratio.

84. (Original) A recording medium having recorded thereon a computer-readable program for processing a predetermined number of detection signals acquired by a sensor made up of a

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predetermined number of detection elements having time integrating effects, said computer-readable program comprising: a mixing ratio detecting step of detecting a mixing ratio of foreground object components and background object components in a mixed area in which said foreground object components constituting a foreground object and said background object components constituting a background object are mixed; and a separating step of separating said foreground object and said background object from each other based on said mixing ratio.